

REMARKS

Applicant is in receipt of the Office Action mailed February 13, 2004. Claims 1, 16, 18, and 26 have been amended to more clearly claim the invention. Further consideration of the present case is earnestly requested in light of the following remarks.

Section 102 Rejections

The Office Action rejected claims 1-4, 9-14, 16-19, and 23-26 under 35 U.S.C. 102(b) as being anticipated by Sites et al. (US 5,515,159, "Sites"). Applicant respectfully traverses the rejection.

As the Examiner is certainly aware, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984). The identical invention must be shown in as complete detail as is contained in the claims. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Moreover, "an 'anticipating' reference must describe all of the elements and limitations of the claim in a single reference, and enable one of skill in the field of the invention to make and use the claimed invention. *Bristol-Myers Squibb Co. v. Ben Venue Labs., Inc.*, 246 F.3d 1368, 1378-79 (Fed. Cir. 2001); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226 (Fed. Cir. 1989)." *In re Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 347 F.3d 1367, 1372 (Fed. Cir. 2003).

Amended claim 1 recites:

1. A method for acquiring images of variable sized objects in an image acquisition system, wherein the image acquisition system comprises an image sensing device and an image acquisition device, wherein the objects are moving relative to the image sensing device, wherein the method acquires images independent of spacing between the objects, the method comprising:

(a) the image acquisition device physically detecting presence of a first object;

(b) the image sensing device generating image data corresponding to the first object;

(c) the image acquisition device initiating storage of the image data corresponding to the first object in response to the image acquisition device detecting the presence of the first object;

(d) the image acquisition device physically detecting absence of the first object after detecting presence of the first object;

(e) the image acquisition device discontinuing storage of the image data corresponding to the first object in response to the image acquisition device detecting the absence of the first object;

wherein an amount of the stored image data substantially corresponds to a size of the first object.

Applicant notes that in the system represented by claim 1, the image data are being stored (e.g., for processing) from the time the object is first detected to when the object's absence is detected, and so, since the objects are moving, the larger the object is, the more image data that is stored. This feature is emphasized in claim 1 by the limitation "wherein an amount of the stored image data substantially corresponds to a size of the first object". Thus, not only is image data only stored while the object is present, but objects of various sizes may be processed by the system without modification of the system. Additionally, since the amount of image data stored correlates with the size of the object, object sizes may be determined without extensive image processing in the image buffers.

In contrast, while Sites does disclose sensors "determining when a package is in the appropriate position for acquiring one or more images by the respective pairs of cameras", and also a sensor "detecting when a particular package is leaving the first station", Applicant notes that as stated in col. 4, lines 13-17, "the actual number of images acquired at each location and the number of locations necessary to image the entire area of a package seal again is application dependent". In other words, the amount of image data stored is dependent upon the particular application, and is specifically *not* dependent upon the varying sizes of inspected objects.

Thus, Applicant respectfully submits that Sites neither teaches nor suggests the limitation “wherein an amount of the stored image data substantially corresponds to a size of the first object”. Thus, for at least the reasons presented above, Applicant respectfully submits that claim 1 as currently amended, and claims dependent thereon are patentably distinct over Sites, and are thus allowable.

Independent claims 16, 18, and 26 include similar limitations as claim 1, and so the above arguments apply with equal force. Thus, Applicant respectfully submits that claims 16, 18, and 26, and claims respectively dependent thereon, are also patentably distinct over Sites, and are thus allowable.

Removal of the 102 rejection of claims 1-4, 9-14, 16-19, and 23-26 is respectfully requested.

Section 103 Rejections

Claims 1-5, 13-20, and 25-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Perry et al. (US 5,903,341, “Perry”) in view of Regier (US 5,339,607, “Regier”). Applicant respectfully disagrees.

To establish a *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to do so. *In re Bond*, 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990).

As held by the U.S. Court of Appeals for the Federal Circuit in *Ecocolochem Inc. v. Southern California Edison Co.*, an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis.

In addition, the showing of a suggestion, teaching, or motivation to combine prior teachings “must be clear and particular . . . Broad conclusory statements regarding the teaching of multiple references, standing alone, are not ‘evidence’.” *In re Dembicczak*,

175 F.3d 994, 50 USPQ2d 1614 (Fed. Cir. 1999). The art must fairly teach or suggest to one to make the specific combination as claimed. That one achieves an improved result by making such a combination is no more than hindsight without an initial suggestion to make the combination.

Applicant submits that neither Perry nor Regier provides a motivation to combine, and so the combination of Perry and Regier for a 103(a) rejection is improper. Applicant further submits that even if Perry and Regier were properly combinable, which Applicant argues they are not, the resulting combination would not teach Applicant's invention as claimed. The Examiner is reminded that "it is insufficient to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor", *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985).

The Office Action asserts that Perry discloses "an object detector (92 of fig. 5) for detecting presence of a first object and providing a detection signal to an image sensing device that is a scan-line camera (50 of fig. 5)", and further asserts that "the video cameras (50) are triggered by the object detector (92)". Applicant respectfully disagrees.

As described in Perry col. 5, lines 15-23, "At the rate of approximately once per millisecond, the video cameras are simultaneously triggered by a signal from a spaced sensor 92, such as a shaft encoder, which senses the speed of the input conveyor 14. The triggering is such that the belt travels a fixed distance between scan lines. When a set of scan lines has been received, the software component will process the input data to determine whether there is an object in the field-of-view for this set." Thus, sensor 92 is not an object sensor, but rather a conveyor speed sensor (shaft encoder). Moreover, as described, the actual detection of the object is performed by a *software component* that processes input data, specifically, scan-lines acquired by the line scan cameras, i.e., the video cameras. Applicant also notes that sensor 98 is also described as a shaft encoder for providing conveyor speed information.

Thus, in Perry's system, the video cameras are specifically *not* triggered by an object sensor that detects the object, but rather, the video cameras acquire and store

image data (scan-lines) that are analyzed by software to detect the presence (or absence) of an object. Once an object is detected (by the software), the relevant portion of the image data (scan-lines) is passed to a video processing software component for further image processing and analysis, e.g., to determine object attributes such as position, size, shape, color, and so forth. Thus, the acquisition and storage of the image data is performed first, and the object is detected based on software analysis of the image data. This is in direct contrast to Applicant's system as represented in claim 1.

Applicant submits that Perry neither teaches nor suggests *the image acquisition device initiating storage of the image data corresponding to the first object in response to the image acquisition device detecting the presence of the first object, nor the image acquisition device discontinuing storage of the image data corresponding to the first object in response to the image acquisition device detecting the absence of the first object*. Applicant further submits that Perry neither teaches nor suggests the limitation *wherein an amount of the stored image data substantially corresponds to a size of the first object*. Thus, a primary benefit of Applicant's system—the ability to determine object size without having to perform image processing in the image buffer—is not provided by Perry's system.

Applicant also notes that, contrary to the Examiner's assertion that the cameras are activated and deactivated by an object detector, where the Examiner cites element 98, "Start Scanline", and "End Scanline", element 98 is not an object detector, but rather is a shaft encoder for detecting conveyor speed, and the "Start Scanline" and the "End Scanline" actually refer to the beginning and ending scan-lines in the image data that correspond to the object image. As described in column 5, lines 47-51, these scan-lines are data elements in the preliminary object description vector derived from the video data. In other words, they are determined via software analysis of the video data, along with object attributes such as size, color, shape, and so forth.

The Office Action admitted that Perry does not teach physically detecting the presence and absence of the object, but cites Regier in an attempt to overcome this deficiency. Applicant respectfully submits that Regier's system relates to packaging groups of objects by count and/or weight, and that Regier's object detection is a light sensor, e.g., a line scan camera, that operates to detect and count groups of objects.

Nowhere does Regier teach or suggest using the object detector to trigger initiating or discontinuing storage of image data of the objects. Neither does Regier teach or suggest the limitation *wherein an amount of the stored image data substantially corresponds to a size of the first object.*

Thus, Applicant respectfully submits that neither Perry nor Regier, either singly or in combination, teaches or suggests all of the features and limitations of claim 1. Thus, claim 1, and those claims dependent thereon, are patentably distinct and unobvious over Perry in view of Regier, and are thus allowable.

Independent claims 16, 18, and 26 contain similar limitations as claim 1, and so for at least the reasons provided above, Applicant respectfully submits that these claims, and claims respectively dependent thereon, are similarly patentably distinct and unobvious over Perry in view of Regier, and are thus allowable. Applicant respectfully requests removal of the section 103 rejection of claims 1-5, 13-20, and 25-26.

Applicant also asserts that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the independent claims have been shown to be patentably distinct, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert & Goetzel PC Deposit Account No. 50-1505/5150-36800/JCH.

Also enclosed herewith are the following items:

- Return Receipt Postcard
- Notice of Change of Address
- Check in the amount of \$ for fees ().
- Other:

Respectfully submitted,



Jeffrey C. Hood
Reg. No. 35,198
ATTORNEY FOR APPLICANT(S)

Meyertons, Hood, Kivlin, Kowert & Goetzel PC
P.O. Box 398
Austin, TX 78767-0398
Phone: (512) 853-8800
Date: 4/26/2004